



O'BRIEN & GERE

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August 18, 1988

Director
Waste Management Division
USEPA, Region V
Attn: Mr. Brad Bradley (5HE-12)
230 S. Dearborn Street
Chicago, IL 60604

Director
Illinois Environmental Protection Agency
Attn: Mr. Ken M. Miller
2200 Churchill Road
Springfield, IL 62706

File: 2844.012

Re: NL/Taracorp Site
Granite City, Illinois

Gentlemen:

Per the request of Stephen Holt of NL Industries, we have prepared this letter in response to discussions held at the August 3-4 meeting in Chicago. During the August 4 meeting we discussed Illinois EPA comments on the Taracorp Remedial Investigation (RI). An issue that required further investigation was the comment of Mr. Shaw on analytical quality control dated March 21, 1988. Mr. Shaw's analysis of the data was done independently of the US EPA and O'Brien & Gere. The US EPA concluded that the data was acceptable with selected qualifications. (April 6, 1988 memorandum, Raymond Piccione to Brad Bradley.) O'Brien & Gere reached the same conclusion in the evaluation presented as Appendix E of the submitted RI.

Mr. Shaw evaluated the data for three rounds of analysis. The technical review of the data was consistent with other technical reviews; however, the stated conclusions were too broad for Ground Water Round 2 analyses. This letter presents a technical discussion which supports O'Brien & Gere's position that the data are usable with selective qualifications. The discussion is separated into two sections representing the two primary concerns raised by Mr. Shaw.

Preparation Blanks: Preparation Blanks for the filtered groundwater samples were not prepared for this round of analyses. The absence of preparation blanks can prevent the laboratory from making a definite statement on whether laboratory contamination resulted in false high analytical results.

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Examination of the data for each metal parameter analyzed confirms that laboratory contamination was not detectable. The number of non-detectable analyses for the metals were as follows: Pb (7), Cd (6), Ba (9), As (7), Fe (7), Zn (8), Mn (1), Ni (8), Cu (9), Cr (9), Hg (9), Sb (9), Ag (9), and Se (6). If laboratory contamination of interest were present, then the less than detectable concentrations for every metal would not have been observed. Consequently, O'Brien & Gere maintains that the lack of preparation blanks does not prevent the use of the data in the Remedial Investigation with the qualifications noted in Appendix E.

Initial Calibration Verification: For all metal parameters one of the calibration standards was used as the Initial Calibration Verification during the calibration. The protocol used involved calibrating the instrument using three different standards, the range of concentrations depending on the analyte. Next a laboratory blank was analyzed and then a laboratory known was determined. Only after these standards and quality control samples were analyzed were ground water samples analyzed. At the end of the ground water samples a standard was again run to check on calibration.

Mr. Shaw discussed the continuing calibration verification as less than QC limits for As, Ni, Cu, Cr, Hg, Ag, Se, and greater than QC limits for Pb, Cd and Sb. Although these results are less than satisfactory, a comparison of the actual values for continuing calibration verification and the reported analytical results for each sample suggests that the data is usable with qualification. Of the 126 potential filtered metal analyses, 104 were less than the detection limit. The remainder were at a concentration where applying correction factors for negative or positive bias were not going to affect the relationship to ground water quality standards. Based on these considerations O'Brien & Gere believes that the data generated can be used in the RI Report with qualifications noted in Appendix E.

Summary

A review of the QA/QC data presented results in the conclusion that the laboratory did not meet all QA/QC objectives. However, QA/QC procedures were utilized and the data generated can be used in the RI Report with certain qualifications. Those qualifications are noted in Appendix E of the Draft RI Report. Revisions to the Final RI Report will include notes in Tables which refer to qualifications in Appendix E.

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If you have any further questions on the acceptability of data, please contact me at (804) 431-1966.

Very truly yours,

O'BRIEN & GERE, ENGINEERS



Frank D. Hale
Regional Office Manager

FDH:bh

cc: D. M. Crawford
S. W. Holt